**Toy Drone Assessment**

**Rules of Engagement**

**Interface**

The interface needs to look as good as possible and also work on both mobile and desktop devices. The logic part of the test should only take about a day to complete, so use the rest of the time to embellish the interface it as much as possible, really show us what you can do, show us your creative side!

**Logic**

The assessment / game is a simulation of a toy drone moving on a square surface (you decide what the surface looks like), The dimensions of the surface are 10 units x 10 units.  There are no other obstructions on the surface. The drone is free to roam around the surface, but must be prevented from falling crossing the boundary. Any movement that would result in the drone crossing the surface boundary must be prevented, however further valid movement commands must still be allowed.

The game needs to accept the following commands:

**PLACE X,Y,F MOVE LEFT RIGHT REPORT ATTACK**

PLACE will put the toy drone on the surface in position X,Y and facing NORTH, SOUTH, EAST or WEST.  The origin (0,0) can be considered to be the SOUTH WEST most corner.  The first valid command to the drone is a PLACE command. After the place command, any sequence of commands may be issued, in any order, including another PLACE command. The application should discard all commands in the sequence until a valid PLACE command has been executed.

MOVE will move the toy drone one unit forward in the direction it is currently facing.  LEFT and RIGHT will rotate the drone 90 degrees in the specified direction without changing the position of the drone.  REPORT will announce the X,Y and F of the drone. This can be in any form.  ATTACK will cause the drone to fire a projectile 2 units ahead of the current position and explode on the surface. If there are not 2 free spaces on the surface in the direction that the drone is facing the command should be ignored.  If the Drone is not yet on the surface the only command that should be accepted is the place command  Input is the developer’s choice but needs to be as intuitive as possible.

**Example Input and Output:**

1. PLACE 0,0,NORTH

MOVE

LEFT

LEFT

ATTACK

REPORT - Output: 0,0,SOUTH

1. PLACE 0,0,NORTH

LEFT

REPORT Output: 0,0,WEST

1. PLACE 1,2,EAST

MOVE

MOVE

LEFT

MOVE

ATTACK

REPORT Output: 3,3,NORTH

**ReadMe**

Please provide an easily accessible link to a readme file that includes your details as well as any additional information that you would like the assessor to be aware of.

**Download**

Please provide an easily accessible link to download the original (uncompiled) source code for the project in a .zip file.

**Hosting**

Please upload your assessment to a host of your choice. i.e. https://profreehost.com/ and submit only the URL to your assessment.

**Test Automation**

* How would you select which automation tool is best suited for a project?
* How will you go about automating the Movement of the drone?
* How will your automation confirm that the drone has moved successfully to the correct location?
* How will you automate and confirm that no other sequence of commands can be used before the Place command has been executed?
* How will you go about automating and verifying that the drone does not go out of the boundary?
* Based on your Assessment requirements and your solution, what other automatable test scenarios can you identify?